

US EPA ARCHIVE DOCUMENT

**THE GREAT LAKES** BINATIONAL TOXICS STRATEGY

# **Great Lakes Binational Toxics Strategy Integration Workgroup Meeting**

**November 30, 2011  
EPA Region 5 Offices  
Chicago, Illinois**

# Benzo(a)Pyrene and Hexachlorobenzene

Work Group Co-Chairs:

Steve Rosenthal, USEPA

Tom Tseng, Environment Canada

## B(a)P and HCB Challenge Goals

### Canada

- Seek a **90% reduction** in releases
- By 2000

### United States

- Seek **reductions in releases** that are within, or have the potential to enter, the Great Lakes Basin
- By 2006

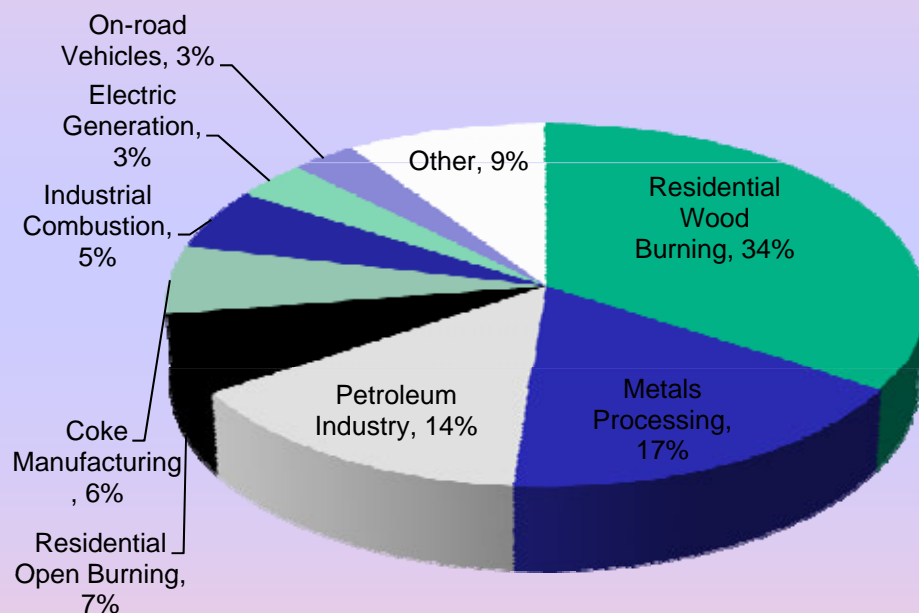
# Progress Toward the Challenge Goals

- The U.S. has met its commitments
  - ◆ B(a)P emissions in Great Lakes states **reduced by ~77%** from 1996 to 2001
  - ◆ HCB emissions **reduced** from 1990 to 1999, and further by 2002 (28% reduction from 1999-2002)
- Canada is still working toward its 90% reduction targets
  - ◆ B(a)P releases **reduced by ~53%**, relative to 1988
  - ◆ HCB releases **reduced by ~74%**, relative to 1988

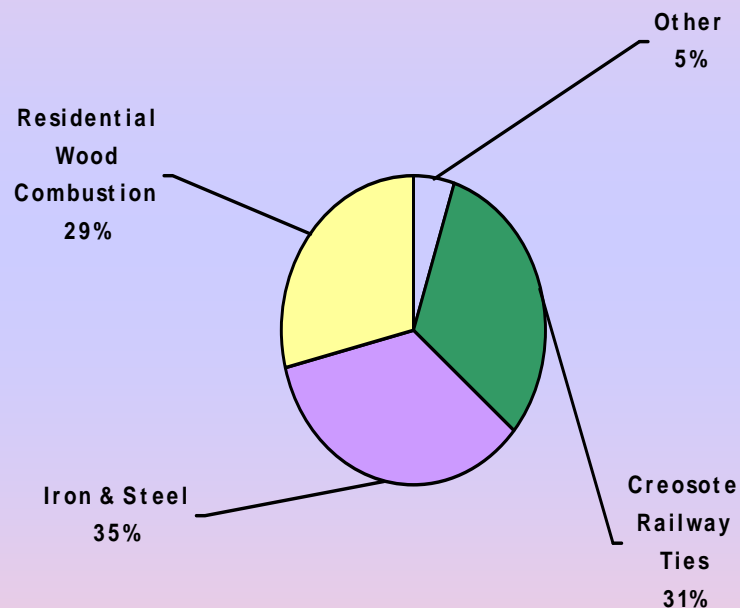
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## B(a)P Sources

**2005 B(a)P Emissions in Great Lakes States and Ontario, 61,094 lbs/yr**



**2009 Ontario B(a)P Sources  
8,153 kg (17,938 lbs)**



Ontario Iron & Steel figures may be overestimated due to changes in estimation methods

## BaP - Summary of Canadian Actions

- Reductions (from 17,380 kg in 1988 to 8,153 kg in 2009)
  - ◆ Iron & Steel Sector accounts for 82% of reductions
  - ◆ Petroleum Refining Sector accounts for 7% of reductions
  - ◆ Residential Wood Combustion accounts for 5% of reductions
  - ◆ Wood Preservation accounts for 4% of reductions
- Iron & Steel
  - ◆ Environmental Code of Practice for Integrated Steel Mills (2001 - PAHs and Benzene)
  - ◆ Environmental Code of Practice for Non-Integrated Steel Mills (2001 - PAHs, HCB)
  - ◆ Environmental Best Practice Manual for Coke Producers – Controlling and Reducing Emissions of Polycyclic Aromatic Hydrocarbons (PAH) from Metallurgical Coke Production in the Province of Ontario (Canadian Steel Producers Association, 2000)

## BaP - Summary of Canadian Actions (continued)

- **Residential Wood Combustion**
  - ♦ **Burn it Smart! Education and Outreach** – Current activity is limited to distribution of existing material. Information is available at <http://www.ec.gc.ca/residentiel-residential/default.asp?lang=En&n=E9FE1750-1>
  - ♦ **Canadian Council of Ministers of the Environment (CCME) seeking proposals for Development of Code Of Practice for Residential Wood Burning Appliances (2011)**
- **Wood Preservation**
  - ♦ **Technical Recommendations Document (2004) and Self-Regulated Certification Program**
  - ♦ **Industrial Treated Wood Users Guidance Document (2004)**
  - ♦ **Creosote Treated Wood Survey (2007)**
  - ♦ **Northern Wood Preservers Inc. Thunder Bay facility mothballed in 2002**
- **Inventory**
  - ♦ **BaP Mapping (2005)**
  - ♦ **MOBILE6C Modelling (2006)**
  - ♦ **PAH Modelling (2009)**



## **B(a)P – Residential Wood Combustion Summary of United States Actions**

- **Dane Co. (WI) wood stove changeout has been successfully completed – about 60 stoves to be changed out**
- **Hoosier SEP – Over one million dollars will be allocated towards a Wood Burning Appliance & Inefficient HVAC Retrofit & Replacement Program in Southern Indiana.**
- **NIPSCO Mitigation Project – A Wood Stove/Boiler Changeout and Retrofit Project is being developed for Northern Indiana**
- **Comprehensive Residential Wood Heater Rule in Development**

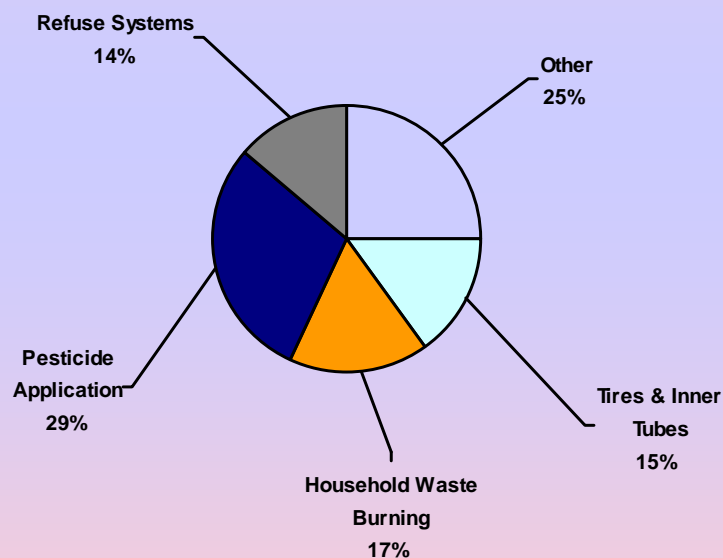
## Other B(a)P Activities

### Summary of United States Actions

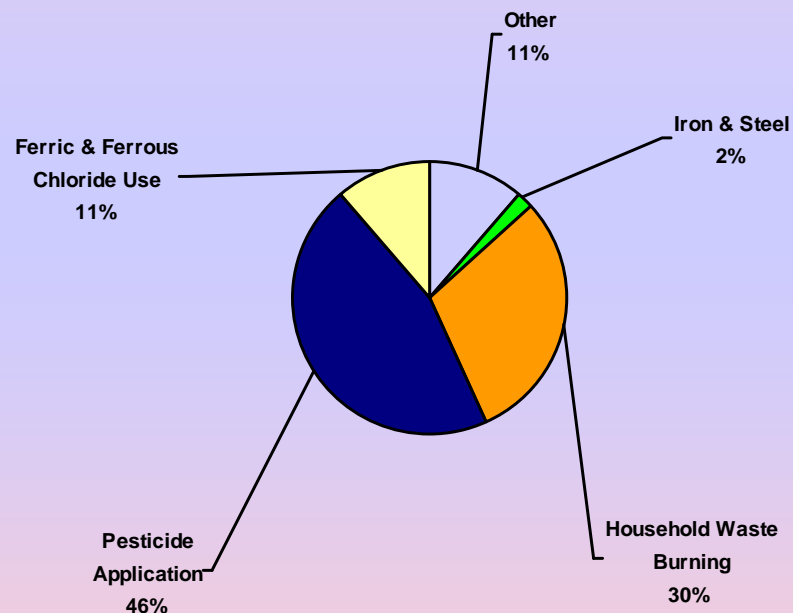
- We provided technical assistance to the Great Lakes and St. Lawrence Cities Initiative with their 1/25/2011 webinar on the potential environmental consequences of using coal tar driveway and parking lot sealers.
- From 2008 to 2010, Midwest Clean Diesel Initiative grantees have reduced over 93,000 tons of pollutants (including PM and B(a)P) by affecting eligible diesel engines and equipment with clean diesel technologies and actions.
- On October 20, 2011, EPA announced the award of \$50 million in clean diesel grants nationally. In Region 5, 9 grants were awarded for a total of \$5.6 million.

# HCB Sources

**2002 US HCB Sources**  
~950 kg (2,100 lbs)

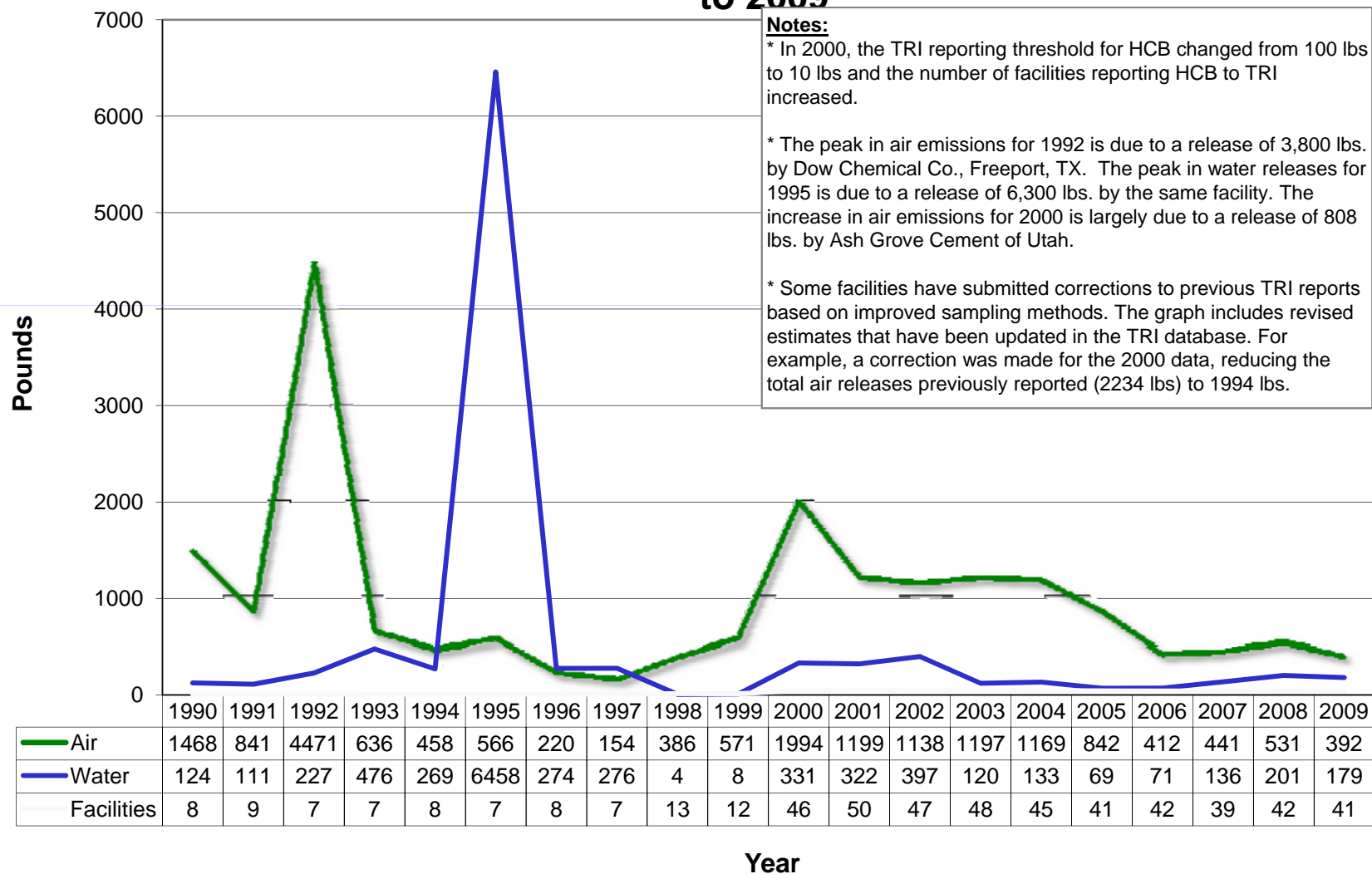


**2009 Ontario HCB Sources**  
13 kg (29 lbs)



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## Trends in HCB Air and Water Releases Reported to TRI from 1990 to 2009



# HCB - Summary of Canadian Actions

- Reductions (from 50.4 kg in 1988 to 13 kg in 2009)
  - ♦ Pesticide Sector accounts for 80% of reductions
  - ♦ Iron & Steel Sector accounts for 5% of reductions
  - ♦ Municipal Waste Incineration accounts for 4% of reductions
  - ♦ Chemical Sector accounts for 4% of reductions
- Municipal Waste Incineration
  - ♦ Closing of incinerators (Hamilton's SWARU facility in 2002, medical waste incinerators)
- Household Waste Burning (Dioxins/Furans)
  - ♦ Education and Outreach – Environment Canada will review its ability to maintain current level of participation in the activities with the Burn Barrel sub-group and future issues of concern with open burning.
- Inventory
  - ♦ HCB Modelling (2008)

## Coal Tar Sealant Study (Toronto)

- Completed by Miriam Diamond of the University of Toronto
- Findings presented at last Integration Workgroup Meeting
- Results presented in a poster at a Dioxin conference in Brussels, Belgium in August of this year
- Study will be published soon

## Coal Tar Sealants (CTS)

- A pavement sealant containing refined coal tar and 3.4% to 20% PAHs
- Concern due to runoff of PAHs and toxicity
- USGS published research on PAHs in lake sediment and house dust attributed to CTS
- Industry opponents contend that CTS are one of many sources of PAHs to the environment
- A few localities banned the use and sale of CTS
- Use of CTS is common in some areas
- Addressing potential contamination from CTS remains an outstanding issue for GLBTS

